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Mrs. Wilke

UNITED STATES DEPARTMENT OF AGRICULTURE  
Bureau of Agricultural Engineering

S. H. McCrory, Chief.

MONTHLY NEWS LETTER

Vol. 1.

September, 1931

No. 3

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: IN THE PREPARATION OF REIMBURSEMENT ACCOUNTS; the following:  
: items appear to be causing some difficulty.  
:

: At top of page 2 of Form 1012 items 1, 2, and 3 must be  
: filled out. If station or hotel porter fee exceeds 15 cents, the  
: number of pieces of baggage must be shown. Date and time of  
: arrival at and departure from official headquarters must be shown.  
: If cash fare is paid in the amount of \$1.00 or more, explanation  
: should be made as to why transportation request was not used.  
: All meals must be itemized as to whether breakfast, dinner, or  
: supper, showing the cost of each. All charges for laundry,  
: cleaning and pressing must be supported by receipts. All tele-  
: phone calls claimed must be shown as "official business." If  
: claim is made for personal automobile used on a mileage basis,  
: statement must be made that "travel was not performed within  
: official headquarters." Express charges paid in cash must be  
: supported by receipts, and explanation made why Government Bill  
: of Lading was not used. Failure to follow these instructions  
: delays payment of the account. Please destroy symbol letter  
: dated July 1 and use symbols in letter dated September 1.  
:

: ADDRESSES ON TELEGRAMS to the Washington office, we have  
: found, should be more explicit than previous instructions  
: stated, to insure prompt delivery. Henceforth please use the  
: form:

: McCrory (or other name), Agricultural Engineering  
: Department of Agriculture - Washington, D. C.  
:

: The words should be spelled out and never abbreviated.  
:

: THE WEEKLY LETTERS of staff members should be confined  
: to reporting progress. Matters requiring action in the Washing-  
: ton office should be made the subject of separate communications.  
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THE RATE OF WAGES paid a laborer in the field must not, under any circumstances, be increased over that shown on a previous pay-roll for the same man without first taking the matter up with the Washington office.

SUPPLIES NEEDED IMMEDIATELY, included among others in a requisition, should be indicated so that shipment may be expedited.

STATIONERY AND FORMS of the Bureau of Public Roads, such as letterheads, envelopes, and bills of lading, should no longer be used. Any such stock on hand should be forwarded at once to the Washington office, or to the Berkeley office in the case of men reporting to that office.

*SA McCrory*

Mr. McCrory returned to Washington on September 17 after a week's trip to the Middle West, in the course of which he conferred with Geo. R. Boyd and J. G. Sutton with reference to the investigation of conditions existing in certain drainage districts in Illinois and Iowa. Mr. McCrory also stopped in Urbana, Ill. to inspect the work in progress there in charge of Thayer Cleaver.

The synopsis of current literature which is being distributed with each News Letter is also being sent to the heads of agricultural engineering departments of the State colleges, and certain others interested in agricultural engineering. The reaction from this enterprise has been very favorable.

L. A. Jones attended a meeting of the erosion committee of the Southeastern Agronomists at Statesville, N.C. The committee went over the program of work in considerable detail and plans to submit suggestions or recommendations relative to the work in progress.

Mr. Jones also visited the soil erosion experiment farm at Statesville and conferred with F. O. Bartel relative to the work on that farm. Later Mr. Jones visited Vineland, N.J. to discuss with G. A. Mitchell the work which he has underway on sewage irrigation projects being conducted in cooperation with the New Jersey Experiment Station. Mr. Mitchell recently supervised the installation of a water wheel which will furnish power for pumping water for sewage irrigation for the Menantico Colony at Vineland.

C. E. Ramser has submitted the following notes regarding the soil erosion experiment farms:

No rains sufficient to produce appreciable run-off have occurred at the soil erosion project at Hays, Kansas, since June 21. R.R. Drake reports that the maximum temperature for September was 111°, the highest recorded for September since 1868.







R. A. Norton reports rapid progress in terrace construction on the Page County project, Iowa. Five and one half miles of terraces have been built,  $2\frac{1}{4}$  miles of which were built during one week with two terracing outfits.

H. S. Riesbol reports the completion of a large soil-saving dam on the Guthrie project. The height of the dam is about 12 feet. A 24-inch corrugated metal pipe about 60 feet long extends at a vertical angle through the dam, the upper end being about 2 feet below the top of the dam and the lower end near the bottom of the gully. A roadway extends across the top of the dam.

Cotton picking has started on the Tyler project. R. W. Baird reports that crops are good, due to timely distribution of small rains during the growing season.

A. T. Holman has nearly completed the construction of silt boxes as planned for the Bethany project. It is planned to complete the installation of all measuring devices on the Bethany project before winter sets in. He predicts a fairly good yield of poor quality corn.

P. C. McGrew is devoting practically his entire time to the construction and installation of Parshall measuring flumes and silt samplers in an effort to complete this work before the coming winter season.

O. A. Faris reports that considerable interest is being shown in a proposal to limit the cotton acreage of Texas. Plans suggested include a 50 per cent reduction of acreage, no cotton for 1932, and no cotton on the same land 2 years in succession.

In connection with the project on Silt in Streams and Reservoirs of Texas, Mr. Faris made a field trip August 18 to 21, to the sampling stations at Waco and Denison and the Wichita Falls reservoir near Seymour. Samples of deposited material were taken from the bottom of the reservoir for determination of the volume-weight ratio. The volume of sand deposited in the valley immediately above the reservoir is surprisingly small. A dense growth of salt cedars on the wide flat river bottom in this vicinity appear to be effective in causing deposition of suspended material above the flow line of the reservoir.

M. R. Lewis has designed a weed-seed screen and pumping plant for the Hermiston Experiment Station, Oregon. Tentative plans for the weed screens for this Station were prepared in the Washington office of the Bureau of Plant Industry. The Division of that Bureau interested in weed control has set aside \$1,000 to purchase and fabricate screens for this plant. Their plans were altered to meet practical working conditions and also to permit experimental work on the size and type of screen and the angle with the vertical at which such screens would be most effective.

Under the direction of Colin A. Taylor, a glass-roofed laboratory was built in the rear of the Ontario, Calif. office, to be used in the experimental determination of the wilting point of soils. Three hundred samples of soil from the San Dimas plots were used in the initial set and each sample contains 580 grams of air-dry soil. Double dwarf sunflower seed are planted in each can.







J. H. McCormick is collecting data on an alfalfa plot near Ontario, Calif., with a view to studying methods and procedure similar to those likely to develop in the proposed cooperative irrigation investigations with the Bureau of Plant Industry at Bard, Calif., to which work it is expected Mr. McCormick will be assigned. A good stand of 4-year-old alfalfa covers that portion of the field selected for the experiment - a strip 21 feet by 220 feet. The soil profile shows exceptionally uniform strata to a depth of 10 feet. In order to confine the water for the purpose of determining the depth of irrigation applied, borders or levees were thrown up around the edge of the plot, and the water measured through a Parshall flume installed at the head of the plot.

Dean W. Bloodgood reports that the results of the potato experiment in the Mimbres Valley, New Mexico, were very good. Plots were irrigated from 3 to 9 times with amounts of water ranging from 8.1 to 20.9 inches. Yields ranged from 6,618 pounds of potatoes for the plots irrigated 3 times with 8.1 inches of water to 15,132 pounds on the plots irrigated 9 times with 20.9 inches of water. The highest duty of water was obtained from a plot irrigated 4 times with 10.5 inches of water, and produced 966 pounds per acre-inch per acre.

Carl Rohwer has completed his first draft of a report on current meters. Charts and drawings to accompany the report are now being prepared. Consistent results were obtained with all meters when using the multiple point method, but some of the simpler methods which are much less time-consuming also gave satisfactory results. The six-tenths method, however, with few exceptions, gave results that were too large. The tests on shallow flumes indicate that the current meter is not well adapted to the measurement of water in channels less than 1 foot in depth. The errors are quite consistent, however, and it is believed that the accuracy of these measurements may be considerably improved by the use of the proper correction factor.

W. W. McLaughlin reports that heavy flow of gas was struck the latter part of August, when boring a well for water on the Bear River Migratory Bird Refuge of the Biological Survey, in Utah, one of our service projects. A little gas was struck at 248 feet, which was controlled, but at 322 feet there was struck such a pressure of gas that it raised the drill. When the drill was finally withdrawn from the hole, mud and water were thrown into the air an estimated distance of 200 feet. The present estimate of the pressure of gas at the bottom of the hole is in excess of 700 pounds per square inch and it is estimated that there is being released from 700,000 to 1,000,000 cubic feet of gas per day. The problem now is to close the well and prevent escape of gas. It is proposed to control the gas flow first by drilling another well within 50 to 100 feet of the present well, using for the first 100 to 200 feet either 6 or 8-inch casing, cementing it both from top and bottom to make it secure, a control valve to be placed on top of the 6 or 8-inch pipe, through which the drilling of the 3 or 4-inch well will be continued. This well will relieve the pressure to some extent on the first well, which then probably can be closed by dumping in gravel and rocks.



TO THE HONORABLE MEMBERS OF THE  
HOUSE OF REPRESENTATIVES  
IN SENATE CHAMBERS  
WASHINGTON, D. C.  
JANUARY 10, 1917  
SIR:  
I have the honor to acknowledge the receipt of your letter of the 9th inst. in relation to the proposed amendment to the National Prohibition Act, and in reply to inform you that the same has been referred to the Committee on the Judiciary for their consideration.

I am, Sir, very respectfully,  
Yours very truly,  
J. P. CANTRELL,  
Clerk of the House.

Very truly yours,  
J. P. CANTRELL,  
Clerk of the House.

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R. B. Gray met Mr. McCrory in Chicago, August 21, from where they proceeded to Ames and held a conference the following day with Claude K. Shedd and Professor Davidson dealing with the cooperative corn production machinery project.

R. B. Gray returned the evening of September 2 from a two-days' trip to southern Ohio, calling enroute at the Plant Quarantine and Control Administration office at Springfield, where he had a conference relative to the equipment recently transferred; at the Midwest Implement Co., at Circleville, Ohio, where he conferred with officials on their line of cultivating tools, with special reference to their use under corn borer conditions; and at the Ohio State Fair at Columbus, where he viewed the machinery display including corn-borer control machinery developed at Toledo.

L. H. Worthley of Plant Quarantine and Control Administration, in charge of the prevention of spread of the European Corn Borer and Japanese Beetle, paid the Toledo office a visit August 24.

Messrs. Merrill, Irons, and Young are still conducting low-cutting corn binder demonstrations in New England. On September 17 a field day is to be held when, among other things, machinery adaptable to fighting the corn borer in New England will be demonstrated. Much interest throughout the area is shown relative to controlling the pest by mechanical means.

Messrs. Dencker and Wallen, Agricultural Engineers from Germany, paid the Toledo office a visit September 7. General farm machinery problems were discussed, as well as the questions of tractor fuels, lubricants, and Diesel engines.

S. W. McBirney went to Bowling Green, Ohio, September 8 to check up on the performance of a four-bar side-delivery rake which had been used this summer in timothy, soy beans, and alfalfa hay. This rake, which was built by the manufacturers according to specifications derived from the 4-bar rake developed at Toledo, made a very creditable showing. Particularly in light growth alfalfa, a much cleaner job was done than could be accomplished by the ordinary 3-bar rake.

Messrs. Reed and Graves have practically completed the revision of the progress report on the draft of plows prepared by Wallace Ashby last year, for the purpose of bringing it up to date.

O. K. Hedden has completed the report, covering the past fiscal year, on burner development and investigations.

A. L. Sharp is now in Florida in connection with fertilizer placement studies.

E. M. Mervine has completed his season's field work on machinery for harvesting sugar beets in California and has returned to his headquarters at Fort Collins, Colorado, to cover the sugar beet harvest in that State.



1. The first part of the paper discusses the importance of maintaining accurate records of all transactions. It is essential for the business to have a clear and concise record of all income and expenses, as this will be necessary for the preparation of the tax return.

2. The second part of the paper discusses the importance of maintaining accurate records of all assets and liabilities. It is essential for the business to have a clear and concise record of all assets and liabilities, as this will be necessary for the preparation of the tax return.

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Wallace Ashby recently visited the experimental work being carried on by A. D. Edgar at Presque Isle, Maine. Mr. Edgar is conducting investigations in cooperation with the Bureau of Plant Industry and the University of Maine on the storage of potatoes. The Bureau of Plant Industry is assisting in the selection and storing of the potatoes and the University of Maine is making tests of the cooking quality of potatoes stored in different ways. In some bins the potatoes will be cured for a period of 2 weeks by forcing air warmed to 60° through the bins; in others unheated air will be circulated. Experiments will also include holding certain bins of potatoes at constant temperatures. All results compared with check bins. This work is a continuation on a commercial scale of laboratory experiments by the Bureau of Plant Industry. Instruments for observing moisture and temperature include thermometers, hygro-thermographs, and thermocouples in addition to ordinary Weather Bureau type instruments. Mr. Edgar will also make observations on a considerable number of commercial and farm storage houses. Heat in the experimental bins will be supplied by electric heaters on account of their simplicity of installation and ease of control.

W. V. Hukill recently visited engineers of the Pacific Fruit Express Company relative to experiments on the effect of color of paint on temperature conditions within refrigerator cars. He then made a trip from Medford, Oregon to New York, making observations of the interior and exterior temperatures of two refrigerator cars in transit. This work is in cooperation with the Office of Horticultural Crops and Diseases of the Bureau of Plant Industry.

M. C. Betts reports that plans and specifications for an equipment depot at Ogden, Utah, for the Bureau of Public Roads, have been completed and the contract for construction awarded. Contract has been let for a small animal barn to be erected at the Beltsville farm for the Zoological Division of the Bureau of Animal Industry. Drawings and specifications have been completed for two river fence crossings for the Bureau of Biological Survey to be erected on the Niobrara Reservation.

A. H. Senner recently returned from a brief trip to Davis and other points in California, in connection with his investigation of orchard heaters. Mr. Senner took with him on this trip his report on the experiments he had conducted at the Arlington farm, the object of which was to make recommendations that will ultimately result in reduction in smoke omission from such heaters. Conferences were held at Davis and Los Angeles with State officials, representatives of the citrus industry, and others concerned with the serious problem resulting from the emission of dense smoke from orchard heaters. It is understood that an attempt will be made to have the California legislature enact certain legislation in this connection during the coming session.



